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EXAMINER

BERMAN, SUSAN W

| ART UNIT | PAPER NUMBER |
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1711

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/791,013 | Applicant(s) FLISHER ET AL. | |
| | Examiner Susan W. Berman | Art Unit 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-16 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 20-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/890129.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

A new title has been entered.

The objection to the amendment filed 01-14-2005 under 35 U.S.C. 132 is withdrawn. The phrase “wherein the water soluble or water swellable polymer is not a gel” has been replaced with “wherein the water soluble or water swellable polymer is not subjected to a comminuting step”.

With respect to claims 22-26, the limitation set forth as a proviso is considered to be supported by the alternatives set forth in paragraphs [0049] and [0050] in US 2004/0171713. The disclosure of the embodiment wherein the polymer is coated with an ultraviolet initiator and then irradiated is that the polymer may alternatively be formed by being coated with the ultraviolet initiator which may be absorbed into the polymer or by preparing a polymer from a monomer mixture containing the ultraviolet initiator by free radical polymerization in the absence of light.

Claims 12-16, 20, 21 and 28, as amended, exclude subjecting the polymer to be irradiated to a comminuting step. In response the rejection of claims 12-16, 20, 21 and 28 under 35 U.S.C. 102(e) as being anticipated by Cywar et al (6,262,141) is withdrawn. It is agreed that Cywar et al emphasize comminuting the polymer in order to treat particles in the disclosed method. The claims are now rejected under 35 USC 103(a), as set forth below.

Response to Remarks

The rejection of claims 12, 13, 20-24 and 28 under 35 U.S.C. 112, first paragraph, with respect to the recitation of a generic “ultra violet initiator” is withdrawn in response to applicant’s remarks. Applicant discloses that any ultra violet initiator that remains substantially inert during the polymerization process is suitable.

The rejection of claims 12-14 under 35 U.S.C. 102(b) as being anticipated by Zhang et al (5,889,073) is withdrawn in order to simplify the issues. As pointed out by applicant, Zhang et al teach a

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process for producing a material having a hydrophilic surface by irradiating a photopolymerizable monomer in the presence of a photoinitiator and removing unreacted reactants and polymerization initiator before post curing with ultraviolet rays and optional heat treatment to completely remove the unreacted monomers and residual solvent (column 13, lines 6-15). It is agreed that Zhang et al do not clearly disclose irradiating a polymer containing photoinitiator since the photoinitiator is used to form the polymer and Zhang et al teach removing it before post curing with UV rays.

Applicant's arguments for reconsideration of the obviousness type double patenting rejection over A.N. 10/468191 are unpersuasive for the following reasons. The use of two different photoinitiators is not a patentably distinguishing feature between the claims of A.N. '191 and the instant claims since the instant claims do not set forth method steps for preparation of the polymer or composition containing the polymer, a photoinitiator and residual monomer. In other words the polymer to be treated in the instantly claimed method can have been produced by any known method as long as unactivated UV photoinitiator is present. Yada et al is cited for teaching that the method steps using different photoinitiators activated at different light intensities are useful for reducing residual monomer in an analogous method for polymerization. The rejection has been rewritten for clarification of the issues.

Specification

The disclosure is objected to because of the following informalities: There are no headings, i.e. Background of the Invention, Summary of the Invention, Brief Description of Drawings, etc..

Appropriate correction is required.

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Claim Objections

Claim 16 is objected to because of the following informalities: Claim 16 should depend from claim 14 instead of claim 15 because claim 15 sets forth a specific compound, thus excluding the compound set forth in claim 16. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12-16, 20, 21 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The added recitation wherein the ...polymer is not "subjected to a comminuting step" lacks support in the specification as filed. Applicant points to page 1, paragraph 3, for support in the specification for this amendment. However, this paragraph, which is the only mention of comminuting a polymer, is a discussion of the background of the invention and what is known in the prior art. The disclosure on page 7, paragraph 2, discusses alternative processes for preparing the polymers to be used in the instantly claimed process, i.e., solution polymerization, reverse phase polymerization and emulsion polymerization as alternative methods for polymerizing an aqueous solution of water soluble monomer. However, there is no mention or recognition that a comminuting step is to be omitted in any or all of the disclosed alternatives. It is suggested that applicant employ claim language that recites method steps in positive rather than negative terms, for example as is set forth in claim 28.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Cywar et al (6,262,141). Cywar et al disclose a method for preparing polymers having low residual monomer content that comprises irradiating a “wide variety” of polymers (see column 3, line 52, to column 4, line 8, and column 5, lines 51-62). Cywar et al disclose irradiating a polymer that was formed in the presence of a UV initiator but in the absence of light as a preferred embodiment; however, the disclosure is not limited to this embodiment (column 4, lines 46-48). Cywar et al also teach that a portion of photoinitiator can be added to polymer gel particles and may be absorbed into the particles to an extent sufficient to help promote further polymerization and reduction in the residual monomer content (column 5, lines 43-50). See column 3, line 59, to column 4, line 8. Thus Cywar et al teach adding photoinitiator to polymer particles. This method would be expected to coat the surface of the polymer, as required in claim 22. The preferred ultraviolet photoinitiator is an α -hydroxyacetophenone, such as Irgacure 2959 and Darocure 1173 (column 5, lines 23-35).

Claim Rejections - 35 USC § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-16, 20, 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cywar et al (6,262,141). Cywar et al teach polymerizing vinyl monomers, including acrylamide, in aqueous solution comprising one or more photoinitiators wherein the photoinitiator is present during the initial polymerization that occurs by action of redox initiators or thermal decomposition of an azo compound (column 4, lines 46-63). The preferred ultraviolet photoinitiator is an α -hydroxyacetophenone, such as Irgacure 2959 and Darocure 1173 (column 5, lines 23-35). The polymer is then irradiated to decompose the photoinitiator and polymerize any remaining monomer simultaneously with or after a step of comminuting the polymer. See column 3, line 59, to column 4, line 8, the "Gelled Polymer Synthesis I" and "Gelled Polymer Synthesis II" in column 8 and Example 1.

Cywar et al teach that comminuting the polymer allows treatment without limiting the thickness of the polymer gel and that comminuting a thick section of gel followed by irradiation and drying the gel particles is "much more efficient in terms of residual monomer reduction" compared to irradiating a thick section of gel followed by comminuting and drying (column 6, line 66, to column 7, line 17). It would have been obvious to one skilled in the art at the time of the invention to omit the comminuting step in the method taught by Cywar et al for the following reasons. Cywar et al teach that the comminuting step is useful wherein a thick gel is being treated, thus one of ordinary skill in the art at the time of the invention would have been motivated to omit the comminuting step when treating a thin gel or a gel prepared with limited thickness. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully reducing residual monomer, as taught by Cywar et al. Alternatively, one of ordinary skill in the art at the time of the invention would have been motivated to omit the comminuting step by a reasonable expectation of reducing residual monomer in a polymeric gel

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even though the degree of reduction of residual monomer might be less than that obtained when the polymer is comminuted.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 12-16 and 20-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/468191 in view of Yada et al (4,762,862). Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The difference between the instantly claimed process and the process set forth in the claims of '191 is that the instant claims do not set forth method steps for producing the polymer to be subjected to UV irradiation to reduce residual monomer but require only that the polymer contain a UV photoinitiator. The claims of A.N. '191 do not set forth that the method could be used to reduce residual monomer content in the polymer. However, the comprising language of the instantly claimed process encompasses the process steps (a) and (b) set forth in the claims of SN 10/468,191, wherein the product of step b is subjected to irradiation in step c.

Yada et al disclose cationic acrylic polymers obtained by adding an azoguanyl photoinitiator and another photoinitiator to an aqueous monomer solution and irradiating in two stages with different light intensities. Yada et al teach that excess unreacted monomers present in the polymer gel can be decreased

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to a satisfactory low level by this method (column 7, lines 26-38). See column 2, line 45, to column 3, line 25, column 5, line 40, to column 6, line 6, column 6, lines 16-27, and the Examples.

It would have been obvious to one skilled in the art at the time of the invention to employ the process steps set forth in the claims of SN '191 to reduce the residual monomer content, as taught by Yada et al in analogous art. It is noted that SN '191 discloses that the claimed process is for reducing the residual monomer content in the water soluble or water swellable polymer, although not set forth in the claims. It is further noted that the instant claims are not limited to specific process steps other than irradiating the polymer in the presence of an ultraviolet initiator. Yada et al teach adding two different photoinitiators to an aqueous monomer solution and irradiating in two stages with different light intensities so that the first initiator is activated in a first stage polymerization and the second initiator is activated in a second stage polymerization. Yada et al teach that excess unreacted monomers present in the polymer gel are thereby decreased to a low level. Thus, step (c) in the method set forth in the claims of A. No. '191 would be expected to result in reducing the residual monomer content in the water soluble or water swellable polymer produced in step (b), as taught by Yada et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH**

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shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
Art Unit 1711

SB
7/30/2005